

IN THE CLAIMS:

1. (Currently Amended) A method for expiring a device containing a time cell, the method comprising:

performing a programming operation, wherein the programming operation sets a predetermined time period for the time cell;

discharging a stored electrostatic charge in a charge storage element in the time cell, wherein the time cell has a substantially discharged state before the programming operation and has a controlled discharge state after the programming operation, and wherein the time cell transitions after the programming operation from the controlled discharge state to the substantially discharged state within the predetermined time period after the programming operation;

reading a state of the time cell;

generating a signal from the state of the time cell, wherein the signal indicates whether or not the predetermined time period has elapsed since the time cell was programmed; and

in response to the signal indicating that the predetermined time period has elapsed, expiring the device;

wherein the charge storage element in the time cell includes a floating gate field effect transistor;

wherein the floating gate field effect transistor is configured within the time cell such that the floating gate field effect transistor turns on in response to applying power to the time cell after the predetermined time period has elapsed;

wherein turning on the floating gate field effect transistor causes the signal to be generated;

wherein the time cell includes a first node, a second node, and a difference amplifier that is connected to the first node and second node; and

wherein when power is applied to the time cell, the first node reaches a predetermined voltage, the second node reaches a voltage that is determined by an amount of charge stored in a floating gate of the floating gate field effect transistor, and the difference amplifier outputs a voltage that is a difference between the voltage of the first node and the voltage of the second node.

2. (Previously Presented) The method of claim 1 further comprising wherein expiring the device includes:
disabling a function or component of the device when the device is exposed to a power source.
3. (Previously Presented) The method of claim 1 further comprising wherein expiring the device includes:
destroying at least a portion of the device when the device is exposed to a power source.
4. (Original) The method of claim 3, wherein the at least a portion of the device includes an electrical connection.
5. (Original) The method of claim 4, wherein the electrical connection is one of a fusible link and a wire.
6. (Original) The method of claim 1, wherein the expiring step further comprises:
draining charges from memory cells.
7. (Original) The method of claim 1, wherein the expiring step further comprises:
setting an expired flag.
8. (Original) The method of claim 7 further comprising wherein expiring the device includes:
destroying at least a portion of the device when the device is exposed to a power source.
9. (Original) The method of claim 1, wherein the device is at least one of a smart card, a value card, a phone card, a credit card, a hotel card, a frequent flyer card, a discount card, a video game, an electronic machine, and an ink cartridge.

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10. (Currently Amended) A system for expiring a device containing a time cell, the system comprising:

performing means for performing a programming operation, wherein the programming operation sets a predetermined time period for the time cell;

discharging means for discharging a stored electrostatic charge in a charge storage element in the time cell, wherein the time cell has a substantially discharged state before the programming operation and has a controlled discharge state after the programming operation, and wherein the time cell transitions after the programming operation from the controlled discharge state to the substantially discharged state within the predetermined time period after the programming operation;

reading means for reading a state of the time cell;

generating means for generating a signal from the state of the time cell, wherein the signal indicates whether or not the predetermined time period has elapsed since the time cell was programmed; and

in response to the signal indicating that the predetermined time period has elapsed, expiring means for expiring the device;

wherein the charge storage element in the time cell includes a floating gate field effect transistor;

wherein the floating gate field effect transistor is configured within the time cell such that the floating gate field effect transistor turns on in response to applying power to the time cell after the predetermined time period has elapsed;

wherein turning on the floating gate field effect transistor causes the signal to be generated;

wherein the time cell includes a first node, a second node, and a difference amplifier that is connected to the first node and second node; and

wherein when power is applied to the time cell, the first node reaches a predetermined voltage, the second node reaches a voltage that is determined by an amount of charge stored in a floating gate of the floating gate field effect transistor, and the difference amplifier outputs a voltage that is a difference between the voltage of the first node and the voltage of the second node.

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11-13. (Canceled)

14. (Previously Presented) A self-expiring device comprising:

a time cell, wherein discharge of a stored charge within the time cell causes operating characteristics of at least one component within the time cell to vary in a controlled fashion with the passage of time, such that the time cell becomes capable of producing a time-expiration signal after a predetermined time period has elapsed;

at least one additional circuit component that is required for proper operation of the device;

disabling circuitry, wherein the disabling circuitry responds to the time cells producing an expiration signal by disabling the at least one additional circuit component;

wherein the at least one component within the time cell includes a floating gate field effect transistor;

wherein the floating gate field effect transistor is configured within the time cell such that the floating gate field effect transistor turns on in response to applying power to the time cell after the predetermined period of time has elapsed;

wherein turning on the floating gate field effect transistor causes the time expiration signal to be produced;

wherein the time cell includes a first node, a second node, and a difference amplifier that is connected to the first node and second node; and

wherein when power is applied to the time cell, the first node reaches a predetermined voltage, the second node reaches a voltage that is determined by an amount of charge stored in a floating gate of the floating gate field effect transistor, and the difference amplifier outputs a voltage that is a difference between the voltage of the first node and the voltage of the second node.

15. (Original) The device of claim 14, wherein the first node is connected to a gate terminal of the floating gate field effect transistor and the second node is connected to one of a drain terminal of the floating gate field effect transistor and a source terminal of the floating gate field effect transistor.